434th Air Refueling Wing
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Fact Sheet

KC-135 Stratotanker

The main mission of the KC-135 Stratotankers flown by the 434th Air Refueling Wing is to provide mid-air refueling to long-range bomber, fighter and cargo aircraft. The KC-135s provide support to all major commands of the Air Force as well as the Navy, Marine Corps and allied nations. It is aerial refueling which makes our nation's vision of "Global Reach-Global Power" a reality.

Four turbojets power the KC-135 to take-offs of up to 322,500 pounds. Nearly all internal fuel can be pumped through the tanker's flying boom, the KC-135's primary fuel transfer method. An operator stationed in the rear of the plane controls the boom and the amount of fuel offloaded to the receiver aircraft.

A special shuttlecock-shaped drogue, attached to the flying boom, may be used to refuel aircraft fitted with probes. A cargo deck above the refueling system can hold a mixed load of passengers and cargo. Depending on fuel storage configurations, the KC-135 can carry up to 83,000 pounds of cargo.

The Boeing Company's model 367-80 was the basic design for the commercial 707 passenger plane as well as the KC-135 Stratotanker. The first stratotanker was delivered to the Air Force in June 1957 with the last one being received in 1965.

The KC-135 can fly at near sonic speeds and at altitudes up to 50,000 feet. These characteristics allow aircraft to be refueled without slowing down or descending to altitudes where jet engines burn fuel more rapidly.

There are three models of the KC-135 Stratotanker--the "A", "E" and "R" models. The 434th Air Refueling Wing is equipped with the KC-135 "R" model Stratotanker. The major differences in the various models are the type of engines.

Listed below are the specifics of the KC-135 "R" Stratotanker :

- **Crewmembers: Three (pilot, co-pilot, and inflight refueling technician)**
- **Take-off Weight(Max): 322,500 pounds**
- **Speed(Max): 600 miles per hour**
- **Engines: Four CFM International CFM-56 turbofan engines**
- **Thrust Per Engine: 21,634 pounds**
- **Range: Approximately 5,000 miles**
- **Cost: $52.2 million**
- **Dimensions: Span--130 ft, 10 in; Length--136 ft, 3 in; Height--41 ft,. 8 in**

Tanker Trivia

The average passenger car could operate for more than a year on the amount of fuel transferred through the air refueling boom on a KC-135 in one minute(1,015 gallons).

The KC-135 is made up of 50 percent aluminum by weight and 10 percent steel and stainless steel. Other metals engineered into the Stratotanker include magnesium and titanium.

The four CFM-56 engines on the KC-135R put out 21,634 pounds of thrust each for a total of over 86,000 pounds. The electrical power generated on a single KC-135 is sufficient enough to supply all the power needs for 35 average U.S. homes.

Enough material is contained in the tires of the KC-135 Stratotanker landing gear(eight main gear wheels and two nose wheels) to produce 100 automobile tires.

The fuel system in a Boeing KC-135 Stratotanker is a highly-integrated and interconnected network of fuel lines and nylon fuel cells. The system contains 50 valves and 14 pumps to guide the fuel flow and pass tons of fuel in minutes for aerial refueling work.

During aerial refueling, which takes place at about 500 miles per hour, the boom operator in the KC-135 is only twenty feet above the nose of the aircraft receiving fuel.

The total fuel carried on a single flight of the KC-135 would be enough to last the average driver for 46 years(30,000 gallons).

To lubricate its four jet engines the KC-135 Stratotanker carries a 69 gallon oil supply, enough for 55 automobiles.

Fuel cells in the KC-135 are made of nylon fabric less than one sixteenth of an inch thick. A fuel cell weighing 80 pounds can hold seven tons of fuel.

The operations of the various systems in the KC-135 requires about 50 electrical motors. Five thousand wires, totaling more than 14 miles in length, are needed in the electrical circuits of the KC-135.

There are 700 electric tubes in the electronics system of the KC-135, approximately the number needed to build 50 television sets. The tubes range in size from sub-miniatures one inch in length and one-quarter inch diameter to tubes nearly a foot long with a five-inch diameter.

A gas station pump operating steadily for 24 hours wouldn't pump as much fuel as a KC-135 tanker pumps through its air refueling boom in eight minutes.

There are almost 500,000 rivets in the KC-135. Even though the KC-135 was produced by the Boeing Company, approximately 3,800 small businesses supplied parts or assemblies to Boeing.

The cargo area in the KC-135 will easily hold a bowling alley with plenty of room left over for a gallery of rooters. The cargo area is almost 11 feet wide, 86 feet long and 7 feet high. It would take over 220 average car trunks to equal this size.

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